

# Quality Compliance

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## ***Certificate of Conformity***

***The designs of Variable Frequency Drive, VFD CFP2000 series, of Delta Electronics were in accordance with following European Directives and International standards and met the high quality requirements on Safety and Environment.***

<b>Directive/Standard</b>	<b>Description</b>
<b>2014/35/EU</b>	<b>Low Voltage Directive(LVD)</b>
<b>EN 61800-5-1 Part 5-1:</b>	<b>Adjustable speed electrical power drive systems – Part 5-1: Safety requirements – Electrical, thermal and energy</b>
4.2	Protection against electric shock, thermal, and energy hazards – Fault conditions
4.3.1	Decisive voltage classification
4.3.2	Protective separation
4.3.3	Protection against direct contact
4.3.4	Protection in case of direct contact
4.3.5.1	Protection against indirect contact - General
4.3.5.2	Insulation between live parts and accessible conductive parts
4.3.5.3	Protective bonding circuit
4.3.5.4	Protective earthing conductor
4.3.5.5	Means of connection for the protective earthing conductor
4.3.5.6	Special features in equipment for protective class II
4.3.6	Insulation
4.3.7	Enclosures
4.3.8	Wiring and connections
4.3.9	Output short-circuit requirements
4.3.10	Residual Current-operated protective (RCD) or monitoring (RCM) device compatibility
4.3.11	Capacitor discharge
4.4	Protection against thermal hazards
4.5.1	Electrical energy hazards
4.5.2	Mechanical energy hazards
4.6	Protection against environmental stresses
5.2.1	Visual inspection
5.2.2	Mechanical tests
5.2.3	Electrical tests
5.2.4	Abnormal operation tests
5.2.5	Material tests
5.2.6	Environmental tests
6.1	Information and marking requirements - General

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Directive/Standard	Description
<b>2014/30/EU</b>	<b>Electromagnetic Compatibility (EMC)</b>
<b>EN 61800-3 Part 3:</b>	<b>Adjustable speed electrical power drive systems – Part 3: EMC requirements and specific test methods</b>
<b>EN 61000-6-3 EN 61000-6-4</b>	<b>Emission – Industrial environments Emission – Industrial environments</b>
EN 61800-3 EN 61800-3	Conducted Emission Radiated Emission
<b>EN 61000-6-1 EN 61000-6-2</b>	<b>Immunity – Industrial environments Immunity – industrial environments</b>
<b>EN 61800-3 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6</b>	<b>Immunity</b> ESD: Electrostatic Discharge RS: Electromagnetic radiated susceptibility EFT: Electric Fast Transient Surge transient CS: Conducted emission susceptibility
<b>EN 61800-3 IEC 61000-2-4 IEC 60146-1-1 IEC 61000-2-4 EN 61000-4-11 IEC 61000-2-4 IEC 61000-2-4</b>	<b>Low frequency immunity</b> Harmonics Commutation notches Voltage variations and fluctuation Voltage dips and short interruption Voltage unbalance Frequency variations
<b>EN 61800-3 EN 61000-3-12</b>	<b>Low frequency emission</b> Harmonics(I > 16A)

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## Directive/Standard

**UL61800-5-1**  
**CAN/CSA C22.2 No. 274-13**

### 4. Protection against electric shock, thermal, and energy hazards

Section 4.1  
 Section 4.2  
 Section 4.3  
 Section 4.4  
 Section 4.5  
 Section 4.6  
 Section 4.7DV.1  
 Section 4.8DV.1  
 Section 4.9DV.1  
 Section 4.10DV.1  
 Section 4.11DV.1  
 Section 4.12DV.1  
 Section 4.13DV.1  
 Section 4.14DV.1  
 Section 4.15DV.1

### 5. Test requirements

Section 5.1  
 Section 5.2

### 6. Information and marking requirements

Section 6.1  
 Section 6.2  
 Section 6.3  
  
 Section 6.4  
 Section 6.5

### Enclosure for Electrical Equipment, Non-Environmental Considerations

Annex DVD (UL50)

### Enclosures for Electrical Equipment, Environmental Considerations

Annex DVD (UL50E)

## Description

**Power Conversion Equipment**  
**Industrial Control Equipment**  
**cUL marking (Approved by UL)**

General  
 Fault conditions  
 Protection against electric shock  
 Protection against thermal hazards  
 Protection against energy hazards  
 Protection against environmental stresses  
 Plenum rated drives  
 Position of operating handles  
 Auxiliary units  
 Accessories  
 Securement of LIVE PARTS  
 Provisions for mounting  
 Phase reversal protection  
 Capacitors  
 Isolation devices

General  
 Test specifications

General  
 Information for selection  
 Information for INSTALLATION and commissioning  
 Information for use  
 Information for maintenance

Frames and Enclosure

Securement of snap-on cover test

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## Regional Certification

## Description

### Miscellaneous standards

ISTA Procedure 1A	Package Drop test and package vibration test Packaged-Products weighing 150 lb (68 kg) or Less
ISTA Procedure 2B	Package Drop test and package vibration test Packaged-Products weighing over 150 lb (68 kg)
EN 50178	Operation and non-operation vibration test

**Performance upon above Directives/Standards might be discrete based on different installation and operation, reading user manual and quick start is advised.**

Issued by:



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Industrial Automation Business Group  
QE Manager